

# XIV International symposium and field workshop on paleopedology

## SOILS AS MEMORY OF CONTEMPORARY AND PALEO ENVIRONMENTS

October 7<sup>th</sup>-15<sup>th</sup> 2023

*Las Cruces, New Mexico State University, USA*



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**New Mexico State University**

<http://nmsu.edu>.

# International Union of Soil Sciences



<https://www.iuss.org/>

## COMMISSION 1.2 – Soil Geography



## INQUA Paleopedology Working Group

<https://www.inqua.org/commissions/wgs>



## *General Information*

After a long break related to the COVID pandemic and other obstacles, we are happy to announce a regular in-person meeting and field workshop for the international paleosol community. This is a joint event of IUSS Commissions 1.6 Paleopedology, Commission 1.2 Soil Geography, and INQUA Paleopedology Working Group and New Mexico State University as a host institution.

The event has the following schedule:

- October 7th – 9th academic sessions and round tables at Corbet Center
- October 8th conference dinner in La Posta
- October 10 – 14th Field Workshop
- October 15th – Departure

## *Symposium venue*

The symposium will be held at the conference center of New Mexico State University located in NMSU Corbet Center

*NMSU Corbet Center* <https://conference.nmsu.edu/event-venues/corbett-center-student-union.html>



## *Scientific coverage of academic sessions*

Contributions concerning any problems of soil development in time and space are welcome.

The event will be focused on the following aspects:

- Loess-, alluvial-, colluvial-, tephra-paleosol sequences: case studies, specific features for different types of paleoenvironmental records, the correlation between different types of soil-sedimentary records, and with other paleoenvironmental archives

- Soils, paleosols and pedosediments of human habitats; soil materials in ancient technologies
- Surface paleosols and relict features in contemporary surface soils
- Pre-Quaternary and extraterrestrial paleosols
- Surface soils of arid and semiarid climates: recent and paleofeatures
- Main analogs of ancient and paleosols in recent soil landscapes

We also plan open discussions at round tables:

- Understanding soils in time and space: concepts and challenges
- Contemporary methods of paleosol studies: profits of genetic approach, attraction and danger of geochemical coefficients.
- Paleosols and paleolandscapes as cultural heritage

*Online participation will be possible.*

### ***Abstract submission***

We kindly ask you to submit your abstracts within the following format:

Language: English.

One letter-size page including line drawings, tables, etc., with 2 cm margins.

First line: title, centered, bold, Times 12 font.

Second line: authors, starting with the last name.

Third line: authors' affiliations. Times 10 font.

Body text: Times 12 font, single-spaced.

Abstract reception is open until August 15.

Please, send your abstracts to:

[paleo.geo.NM.2023@gmail.com](mailto:paleo.geo.NM.2023@gmail.com)

Please, specify in the letter whether you prefer oral or poster presentation.

### ***Field Workshop***

More than 50 years of research experience within the Desert Soil-Geomorphology Project conducted by the U.S. Soil Conservation Service in Doña Ana Country, southern New Mexico will be demonstrated and discussed during a five-day field workshop. Soils and soil-sedimentary sequences range from less than 150 years old to over 2,000,000 years old illustrating landscape evolution and climate change, glacial-interglacial effects on landscape

stability, the concept of the geomorphic surface and its relationship to soil mapping, pedogenic carbonate accumulation, radiocarbon-dating pedogenic carbonates and soil organic matter, OSL dating, formation and destruction of argillic horizons, micromorphology of paleosols with special respect to pedogenic carbonates and textural pedofeatures, and other issues related to paleopedology, and at a wider scale, to soil development in space and time.

Below you will find a description and a map of the Field Workshop route.

## **DAY 1**

### Stop 1

- Chronosequence of soil development in igneous parent material,
- Buried paleosols
- Desert varnish on silicate lithology in contrast to the absence of varnish on neighboring limestone lithology

### Stop 2

- Chronosequence of soil development in limestone parent material
- River response to continental glaciation

### Stop 3

- Ancestral Rio Grande system
- Stage IV and V petrocalcic horizon formation on relict paleosols

## **DAY 2**

### Stop 4

- Soil memory as mollic and argic horizons in a semiarid bioclimatic sequence

### Stop 5

- White Sands National Park dune field
- Pedogenesis on gypsum parent material

### Stop 6

- Sky-island forest ecosystem
- Forest soil pedogenesis

## **DAY 3**

### Stop 7

- Radiocarbon-dating pedogenic carbonates

## Stop 8

- Eolian response to late Holocene climate change and landscape stability/instability

## Stop 9

- Alluvial fan response to middle Holocene climate change and landscape stability/instability

## DAY 4

### Stop 10

- River floodplain sedimentation and pedogenesis
- Agricultural soils

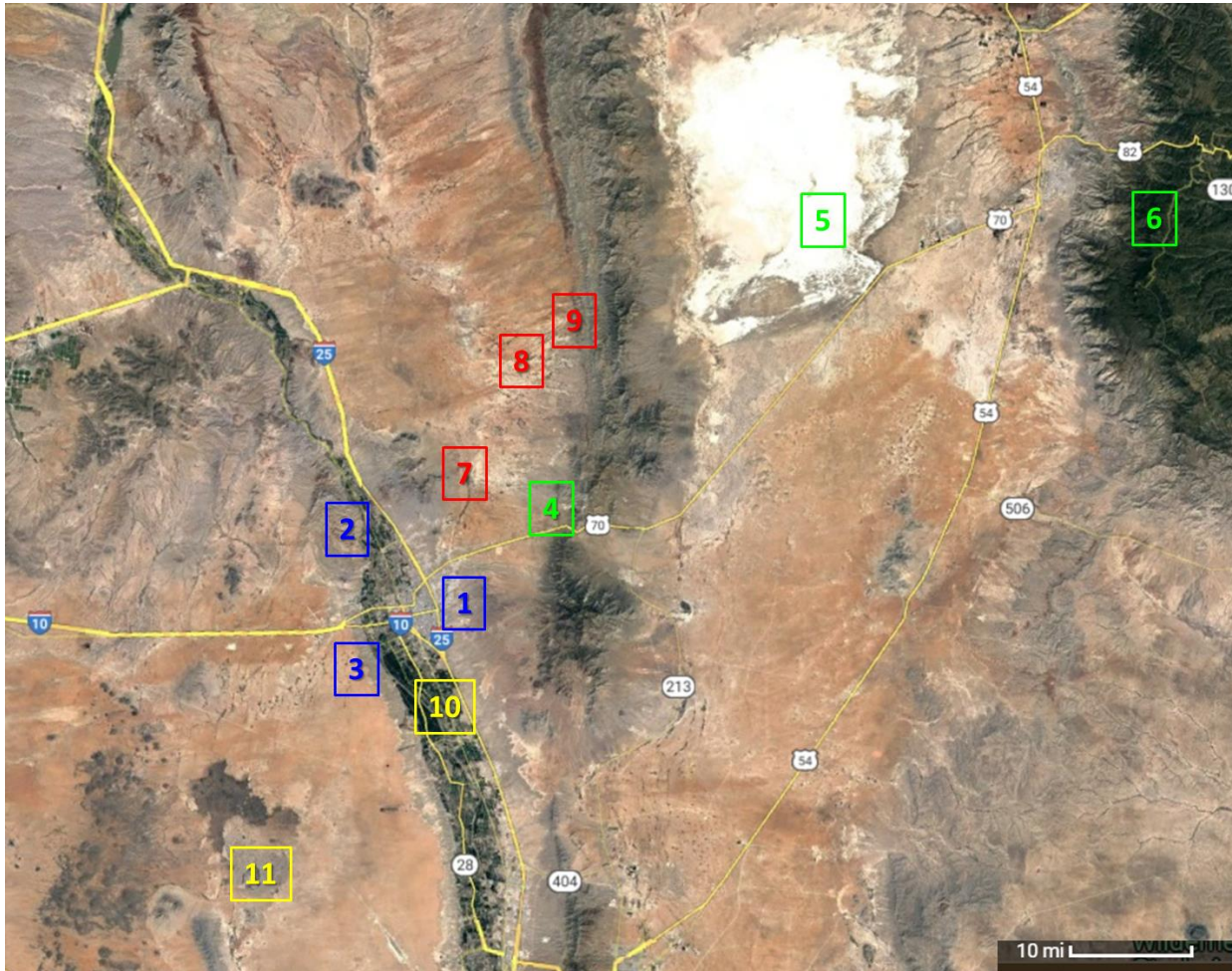
### Stop 11

- Late-Pleistocene volcanic eruptions
- Basalt chronosequence

## DAY 5

Pre-Quaternary soils (to be specified)

### *Route of the Field Workshop*



## *Lodging*

We've reserved a block of rooms in two hotels.

Courtyard by Marriott Las Cruces at NMSU, 456 E University Ave, is a high standard chain hotel with fresh modern interiors design.

Ramada by Wyndham Las Cruces Hotel, 201, E University Avenue has gorgeous spanish-inspired interiors, stylish onsite restaurant, and somewhat lower prices.

Links for booking at a special discounted rates will be provided for registered participants.

Both hotels are in 20-30 minutes' walking distance from the symposium venue. For those who prefer faster options once a day scheduled transportation will be provided to Corbet Center and back. During the filed days we will pick up the participants from both locations.

### *Courtyard by Marriott Las Cruces at NMSU*



### *Ramada by Wyndham Las Cruces Hotel*



## ***Registration***

To register for the meeting and field workshop, please, fill in the google form:

[https://docs.google.com/forms/d/e/1FAIpQLSdlzOZhb5ka24ZSWHWe-6b3ggfMDIO4SBxnANKbcokw7Am4NA/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSdlzOZhb5ka24ZSWHWe-6b3ggfMDIO4SBxnANKbcokw7Am4NA/viewform?usp=sf_link)

If you have difficulties using google form please contact

us: [paleo.geo.NM.2023@gmail.com](mailto:paleo.geo.NM.2023@gmail.com)

## ***Fees and deadlines***

The fee for participation in Symposium on October 7-9th is 400 USD (coffee breaks and lunch buffets are included).

The fee for participation in Field Workshop on October 10 – 14<sup>th</sup> is 700 USD. It includes a field guide, transportation, and box lunches during the field days.

Lodging is not included in the fees.

The deadline for the fee payment is the 15<sup>th</sup> of July.

Information on methods of payment will be provided to registered participants.

## ***Travel and Directions***

### Air Travel

El Paso International Airport is an easy one-hour drive. Convenient shuttle service between the airport and Las Cruces is available.

- [El Paso International Airport](#)
- [Las Cruces Shuttle](#)

### Driving Directions

From the North: Take Interstate-25 south to University Ave, Exit 1. Continue heading right on the exit ramp. Proceed west on University Ave. NMSU is on your left.

From the South: Take Interstate-10 to Interstate-25. Exit Interstate-25 North to University Ave, Exit 1. Turn left on University Ave. and cross over the highway. NMSU is on your left.



From the West: Take the Main Street Exit #142 (off of Interstate-10). Turn right on Main Street (northbound), and then right on University Ave. Continue to proceed east on University Ave. NMSU is on your right.

From the East (Northeast): When entering Las Cruces off Hwy 70, take Interstate-25 south to University Ave, Exit 1. Continue heading right on the exit ramp. Proceed west on University Ave. NMSU is on your left.

More information is available through the following link:

<https://conference.nmsu.edu/travel-directions.html>



**Looking forward to seeing you in Las Cruces**

